

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) Diagnostic agent comprising a compound of formula:

(PEPTIDE)n1 – (LINKER)n2 – (SIGNAL)n3 (I)

wherein

1) PEPTIDE is chosen from the group:

a) X1 – X2 – X3 – X4 - NHOH (II),

wherein

X1 is absent or X1 is a residue of an alpha-amino glycine, X2 is a residue of an amino acid selected from proline, hydroxyproline, thioproline and alanine, X3 is a residue of an amino acid selected from glutamine, glutamic acid, leucine, isoleucine and phenylalanine and X4 is a residue of an alpha-amino acid selected from glycine, alanine, alanine and valine, leucine;

and the hydrogen atom of the amino group in said alpha-amino acid X1 may be replaced with a member X0 selected from the group consisting of acetyl, benzoyl (Bz), benzyloxy, t-butyloxycarbonyl, benzyloxycarbonyl (Z), p-aminobenzoyl (ABz), p-amino-benzyl, p-hydroxybenzoyl (HBz), 3-p-hydroxyphenylpropionyl (HPP);

2) SIGNAL is a signal entity for medical imaging; and

3) LINKER ~~eventually absent~~ represents a chemical link between PEPTIDE and SIGNAL;

4) n1 = 1;

5) n2 = 0 or 1;

6) n3 = 1-8;

and the pharmaceutical salts thereof.

2. (Currently Amended) Diagnostic agent of claim 1 wherein X1 is absent or X1 is glycine, X2 is a residue of an amino acid selected from proline, hydroxyproline, thioproline, X3 is a residue of an amino acid selected from leucine, isoleucine and phenylalanine and X4 is a ~~residue of an alpha-amino acid selected from glycine, alanine~~.

3. (Previously Presented) Diagnostic agent of claim 1 wherein PEPTIDE is X-NHOH with X chosen from the group: Abz-Gly-Pro-D-Leu-D-Ala, HBz-Gly-Pro-D-Leu-D-Ala, Abz-Gly-Pro-Leu-Ala, Bz-Gly-Pro-D-Leu-D-Ala, Bz-Gly-Pro-Leu-Ala, HPP-Pro-D-Leu-D-Ala, HPP-Pro-Leu-Ala, Z-Pro-D-Leu-D-Ala, and Z-Pro-Leu-Ala.

4. (Previously Presented) Diagnostic agent of claim 1 wherein PEPTIDE is p-aminobenzoyl-Gly-Pro-D-Leu-D-Ala-NHOH.

5. (Withdrawn) Diagnostic agent of claim 1 wherein SIGNAL is macrocyclic or linear chelate chosen from the group: DTPA, DOTA, DTPA BMA, BOPTA, DO3A, HPDO3A, TETA, TRITA, HETA, M4DOTA, DOTMA, MCTA, PCTA and the derivatives thereof.

6. (Withdrawn) Diagnostic agent of claim 1 wherein SIGNAL is a lipidic nanoparticle, a liposome, or a nanocapsule, and wherein the SIGNAL is a carrier of a diagnostic metal chelate.

7. **(Withdrawn)** Diagnostic agent of claim 1 wherein said agent is coupled to a metal element M chosen from the group of ions of a paramagnetic metal of atomic number 21-29, 42-44, or 58-70, or a radionuclide.
8. **(Previously Presented)** Diagnostic agent of claim 1 wherein SIGNAL is an iron oxide particle.
9. **(Previously Presented)** Diagnostic agent of claim 8 wherein the particle is coated with a gem-bisphosphonate.
- 10.-11. **(Canceled)**
12. **(Previously Presented)** Method of preparation of a compound of claim 1 comprising the coupling of a peptide X1 -X2 -X3 -X4-NHOH and a SIGNAL entity.
13. **(Previously Presented)** Method of detecting, imaging or monitoring the presence of matrix metalloproteinase in a patient comprising the steps of: a) administering to said patient a diagnostic agent of claim 1; and b) acquiring an image of a site of concentration of said diagnostic agent in the patient by a diagnostic imaging technique.
14. **(Withdrawn)** Method of detecting, imaging or monitoring a pathological disorder

associated with matrix metalloproteinase activity in a patient comprising the steps of: a) administering to said patient a diagnostic agent according to claim 1; and b) acquiring an image of a site of concentration of said diagnostic agent in the patient by a diagnostic imaging technique.

15. (Withdrawn) Method according to claim 14, wherein the pathological disorder associated with matrix metalloproteinase activity in a patient is coronary atherosclerosis or cerebrovascular atherosclerosis.
16. (Withdrawn) Method of identifying a patient at high risk for transient cerebral ischemic attacks or stroke by determining the degree of active atherosclerosis in a patient comprising carrying out the method of claim 15.
17. (Withdrawn) Method of identifying a patient at high risk for acute cardiac ischemia, myocardial infarction or cardiac death by determining the degree of active atherosclerosis by imaging the patient by the method of claim 15.
18. (Withdrawn) Method of diagnosing a cardiovascular/atheroma disease comprising the administration of an effective amount of the diagnostic agent according to claim 1 to a patient in need thereof.

19. **(Withdrawn)** Method of imaging cardiovascular pathologies associated with extracellular matrix degradation, such as atherosclerosis, heart failure, and restenosis in a patient involving: (1) administering a paramagnetic metallopharmaceutical diagnostic agent of claim 1 capable of localizing the loci of the cardiovascular pathology to a patient by injection or infusion; and (2) imaging the patient using magnetic resonance imaging or planar CT or SPECT gamma scintigraphy, or positron emission tomography or sonography.
20. **(Withdrawn)** Method for assessing vulnerable plaques which comprises combining a diagnostic imaging with a diagnostic agent of claim 1 and/or a morphologic analysis of the plaques and/or a study of stenoses.